

**284W Power House
200 West Area
Asbestos "Left in Place" Notification**

This notification has been developed In accordance with the DOE/RL-2010-33, *Removal Action Work Plan for Central Plateau General Decommissioning Activities*, Section 2.2.2.1, "Removal of Hazardous Substances," Page 2-2, which requires notification be provided to U.S. Environmental Protection Agency (EPA) prior to implementation of emission controls similar to those addressed by EPA/600/R-08/094, *Comparison of Alternative Asbestos Control Method and the NESHAP Method for Demolition of Asbestos-Containing Buildings*. The notification provides an estimate of the potential asbestos-containing material (ACM) that will remain in place prior to demolition and the planned asbestos control methods for such ACM.

Asbestos to be "Left in Place" During Demolition of 284W

Power House

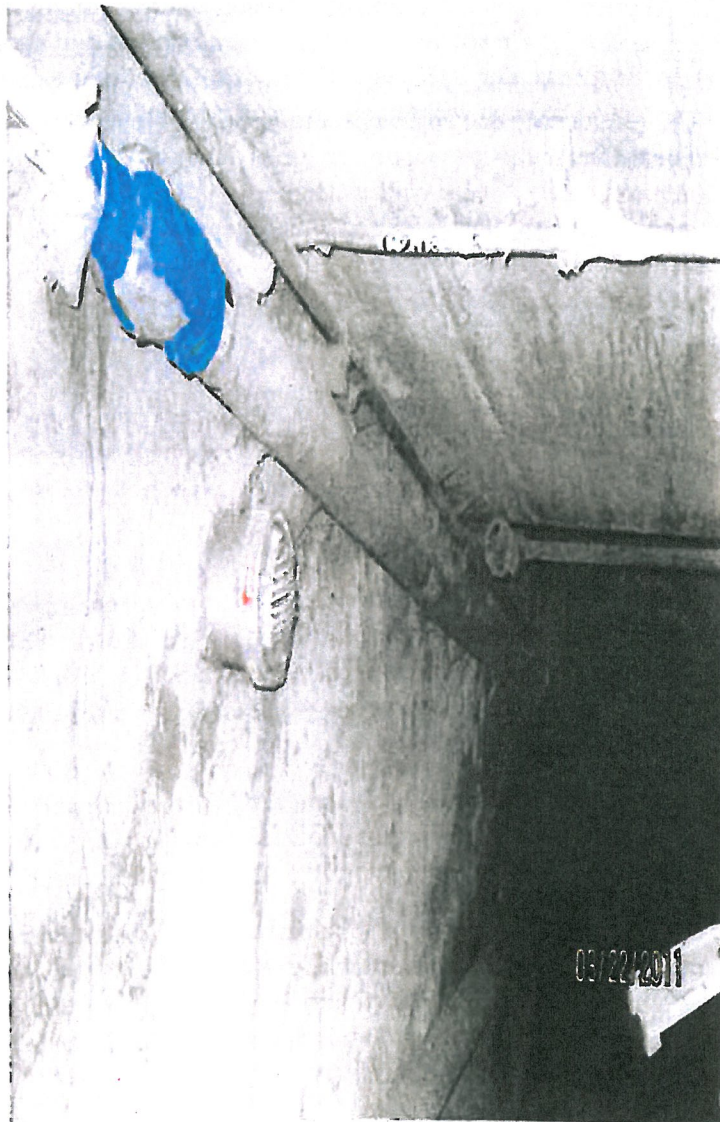
The 200 West D&D Project for Central Plateau General Decommissioning will be demolishing the 284W Power House in the 200 West Area. The D&D Project is planning to demolish a portion of the Power House with inaccessible Class I Thermal System Insulation (TSI) asbestos containing material (ACM) left in place. The portion to be demolished under this notification is the Crusher House and the coal conveyor system.

The inaccessible Class I TSI ACM is located in a section of the 284W Powerhouse Building conveyor system that is located in an underground vault. The location is in the lowest portion of the conveyor system.

The underground vault has been flooded for many years with storm water. The water was removed and the area was made accessible for asbestos abatement. The asbestos is located on steam lines that are suspended from the ceiling of the vault and stairwell.

The photo to the right shows the first of two 12 foot sections of piping where Class I TSI ACM is located. The TSI material is wrapped in metal sheeting. The first section of piping is located inside the underground walkway on the east side of the Crusher Building and Conveyor Section. The piping is approximately 2 inches in diameter (circumference 0.523 ft) and approximately 12 feet long, resulting in a total area for the first of the two sections of approximately 6.28 ft².

Using the calculated surface area of 6.28 ft² and an insulation depth of approximately 2 inches (0.167 feet), the volume of Class I TSI ACM for the first section of piping is approximately 1.05 ft³.



The photo to the right shows the second of two 12 foot sections of piping where Class I TSI ACM is located. The TSI material is wrapped in metal sheeting. The second section of piping is also located inside the underground walkway on the east side of the Crusher Building and Conveyor Section. This section of piping is located directly across from the first section shown in the previous photograph.

The second section of piping is similar in dimensions to the first section of piping (approximately 2 inches in diameter and approximately 12 feet long and will therefore also have a volume of approximately 1.05 ft³.

The total volume of Class I TSI ACM associated with the two 12 foot sections of piping is approximately 2.10 ft³.



The asbestos areas of concern were inspected by a qualified asbestos inspector. The inspector determined that asbestos being left in place for demolition is Class I TSI ACM. Workers have removed the Class I TSI ACM to the points identified in the two photos. There is some potential for additional asbestos containing materials in the below grade vaults. Should additional pipe or valves be identified, they will be abated as described below.

The remaining areas of asbestos in the Crusher House and Conveyor Room Vaults would pose a potential risk to workers in their current configuration. The below grade areas are not well ventilated and would require special entry and may pose additional risk to workers.

The project plans to apply as much fixative as necessary prior to and during demolition by spray methods to reduce asbestos fibers from becoming airborne. During the demolition of the below grade portion of the structure, the roof of the structure will be removed and the piping with the asbestos will be removed with machinery and abated. Abatement will take place at the ground level, where the asbestos can be abated using the standard methods.

Controls to be implemented for demolition of structures/buildings that contain Class I TSI and/or Class II regulated ACM (RACM) that will remain in place during demolition will be the controls listed in DOE/RL-2010-33, Section 2.2.2.1, Pages 2-2 and 2-3 (which are provided below).

1. An accredited asbestos building inspector will perform a comprehensive inspection of the building/structure to be demolished.
2. An estimate of the potential ACM that may reside in the building or structure [is provided].

3. A competent person trained in asbestos regulations will provide oversight during active asbestos demolition activities.
4. Track hoes, end loaders, and equivalent equipment and control explosives may be used during demolition in conjunction with wetting processes to minimize generation of dust.
5. Building/structures to be demolished with RACM remaining will be thoroughly and adequately wetted with amended water (water to which a surfactant has been added) prior to demolition, during demolition and during debris handling and loading. To the extent feasible, cavity areas and interstitial wall spaces will be wetted. A fixative or sealant such as "lockdown" may be used to reduce the potential for fiber and dust generation during the demolition process. Additionally, fixative or sealant will be used on demolition debris that will remain undisturbed for greater than 24 hours.
6. Breakage of ACM will be minimized, to the extent practical, and ACM debris generated during that day will be containerized for disposal.
7. The "National Emission Standards for Hazardous Air Pollutants" (NESHAPs) asbestos standard of "no visible emissions" from RACM or ACM will be employed.
8. In the event of inclement weather that will impede the ability to adequately wet the structure, demolition activities will be delayed or halted.
9. Worker protection requirements will be followed. Personal protective equipment (PPE) will either be disposed of as RACM or decontaminated in accordance with Occupational Safety and Health Administration (OSHA) practices.
10. Potentially contaminated water will be controlled during demolition. Impervious surfaces will be thoroughly washed with water following completion of the asbestos-related activities.
11. Upon the removal of demolition debris, bare soil within the asbestos-related demolition area will be excavated to a minimum depth of 7.62 cm (3 in.) or until no debris is found. If berms or other run-off controls were used to contain water, they will be removed and imposed of as potentially asbestos-contaminated.

These controls are in addition to those standard demolition controls listed in Section 4.3.4 of DOE/RL-2010-33.

**284W Power House
200 West Area
Asbestos "Left in Place"
Notification No. 2**

This notification has been developed in accordance with DOE/RL-2010-33¹, Section 2.2.2.1, "Removal of Hazardous Substances," Page 2-2, which requires notification be provided to the U.S. Environmental Protection Agency prior to implementation of emission controls similar to those addressed by EPA/600/R-08/094². This notification provides an estimate of the potential Class I asbestos-containing material (ACM) that will remain in place prior to demolition and the planned asbestos control methods for such Class I ACM.

¹ DOE/RL-2010-33, 2010, *Removal Action Work Plan for Central Plateau General Decommissioning Activities*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: <http://www5.hanford.gov/arpir/?content=findpage&AKey=0084342>.

² EPA/600/R-08/094, 2008, *Comparison of the Alternative Asbestos Control Method and the NESHAP Method for Demolition of Asbestos-Containing Buildings*, U.S. Environmental Protection Agency, Cincinnati, Ohio, and Dallas, Texas; Environmental Quality Management, Inc., Cincinnati, Ohio; and QuanTech, Inc., Arlington, Virginia. Available at: <http://www.epa.gov/nrmrl/pubs/600r08094/600r08094.html>.

Terms

ACM	asbestos-containing material
AOC	area of concern
D&D	decontamination and decommissioning
RACM	regulated asbestos-containing material
TSI	Thermal System Insulation

**Asbestos to be "Left in Place" During Demolition
of the Main Structure of the 284W Power House**

Notification No. 2

The 200 West decontamination and decommissioning (D&D) Project for Central Plateau General Decommissioning will involve demolishing the 284W Power House in the 200 West Area. The D&D Project is planning to demolish the Power House with inaccessible Class I asbestos-containing materials (ACM) and Class I Thermal System Insulation (TSI) left in place.

This is the second notification generated for demolition activities with Class I ACM and Class I TSI to be left in place during demolition. This notification is being generated for the main structural portion, above grade, of the 284W Power House. The location and estimated quantities of Class I ACM and Class I TSI left in place are identified in this report with photographs and detailed information.

The main 284W Power House structure was constructed in the 1940s and contains four Erie boilers. Three boilers were installed during the initial construction phase, and one additional boiler was installed during the 1950s. Class I TSI is thought to have been used extensively throughout the facility for thermal insulation around piping, furnaces, and boilers.

An environmental engineering report for the 284W Power House (EE-09-02425-1, "Engineering Evaluation for the Demolition of Building 284W, Building 284WB and Building 2710W") identifies the presence of Class I ACM in the 284W Power House main structure. The report discusses the use of Class I ACM during the initial construction and in later updates and modifications to the building.

A safety professional has determined the areas of inaccessible Class I ACM and Class I TSI to be unsafe for worker access necessary to perform asbestos abatement. All locations of inaccessible Class I ACM and Class I TSI in this report will more than likely be included in the demolition of the 284W Power House structure. However, there may be opportunities for some piping or boilers to be removed from the structure during demolition activities and the asbestos abated at a separate onsite location.

In summary, this notification provides information and estimated volumes for six general asbestos areas of concern (AOC); one area of Class I ACM concern and five areas of Class I TSI concern. Some AOCs have duplicate configurations for each boiler. The total estimated volume of Class I ACM and Class I TSI to be left in place during demolition is calculated to be 780 ft³.

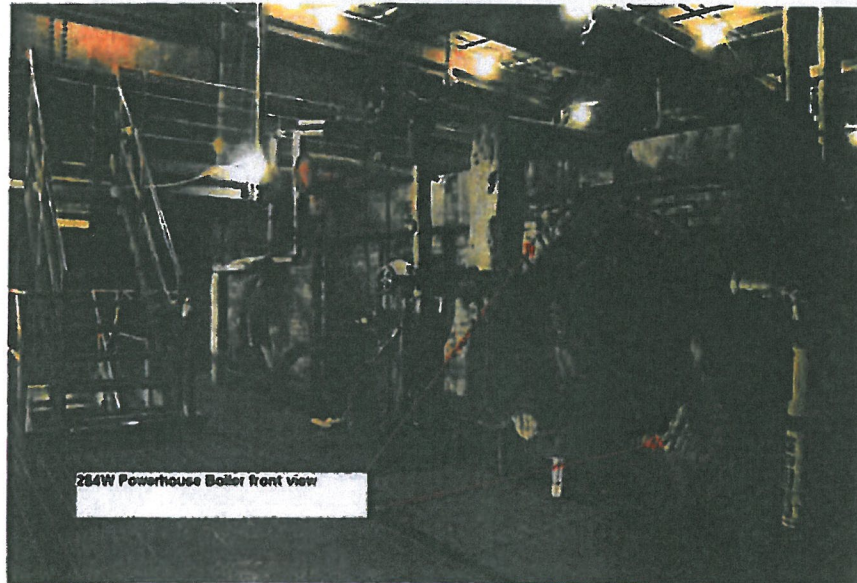
ASBESTOS NOTIFICATION

The AOCs of inaccessible Class I ACM and Class I TSI are located around the exterior lower portion of each boiler.

The front of one of four identical boilers within the 284W Power House facility is shown in Photograph 1. Each boiler has firebrick shielding (boiler walls) between the main support beams.

The firebrick in and around the boilers will be removed, as accessibility and safety allow. The material that is inaccessible is located under the horizontal support beams located on the underside of each boiler.

Each boiler is approximately 30-ft-long with an approximate 5-ft-diameter.

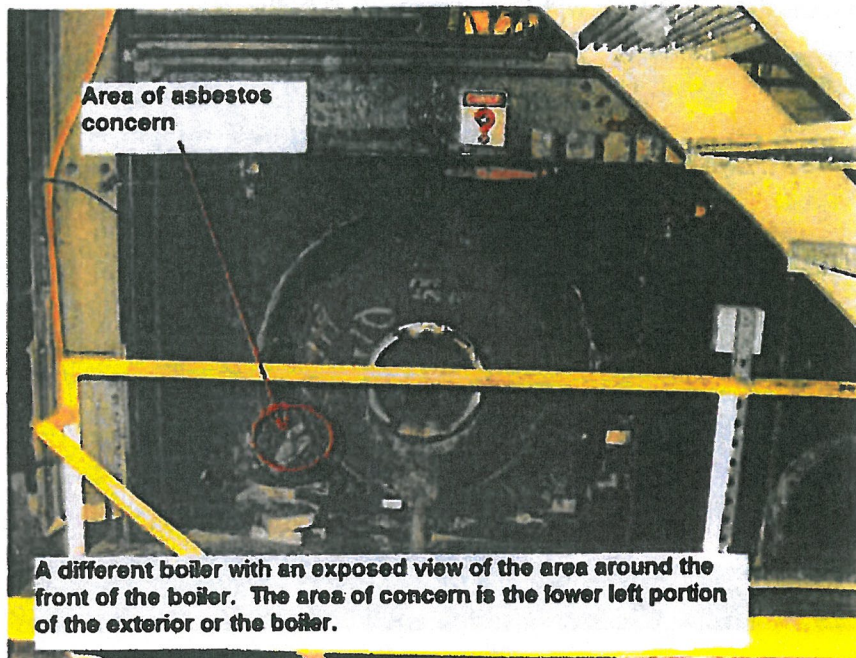


Photograph 1

ASBESTOS NOTIFICATION

The first asbestos AOC, and the only area of Class I ASM concern, is identified in Photograph 2. The arrow indicates the area where some of the inaccessible asbestos-containing brick and mortar is located (lower left corner of the boiler). This is common to all four of the 284W Power House boilers.

This particular boiler is shown to have an area of inaccessible Class I ACM on one side (left) of the boiler. The area on the right side of the boiler will also contain inaccessible Class I ACM. All four of the Erie boilers are of identical construction with inaccessible Class I ACM and Class I TSI on both sides of the boilers.



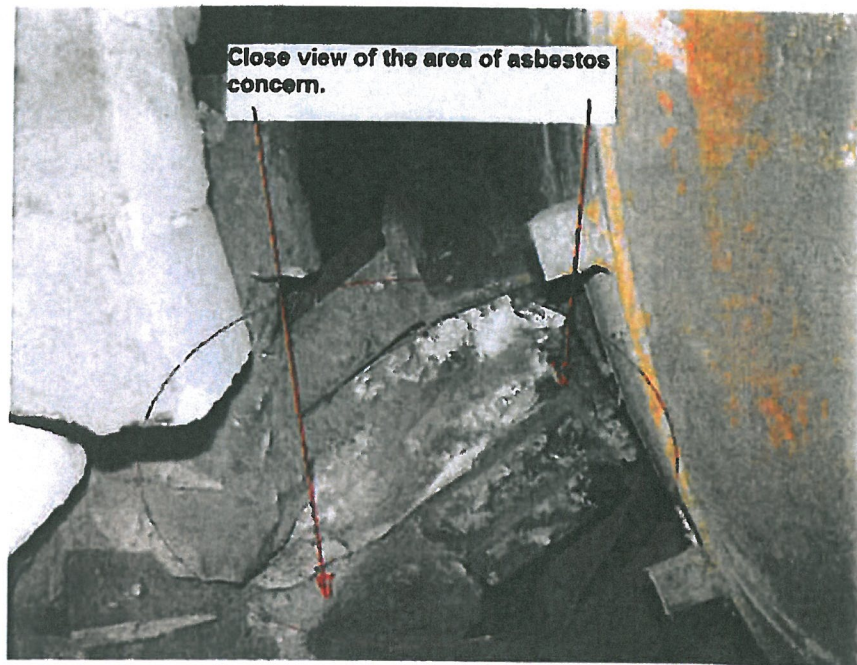
Photograph 2

ASBESTOS NOTIFICATION

Each asbestos AOC is approximately 30-ft-long, 2-ft-wide, and approximately 15-in.-thick. This equates to approximately 75 ft³ for each inaccessible area.

Based on the estimate of 75 ft³ for each of these asbestos AOCs, the total cubic footage of inaccessible Class I ACM for these locations is estimated to be about 600 ft³ (four boilers, eight locations at 75 ft³ per location).

This total volume could be higher, based on actual volumes for each asbestos AOC.



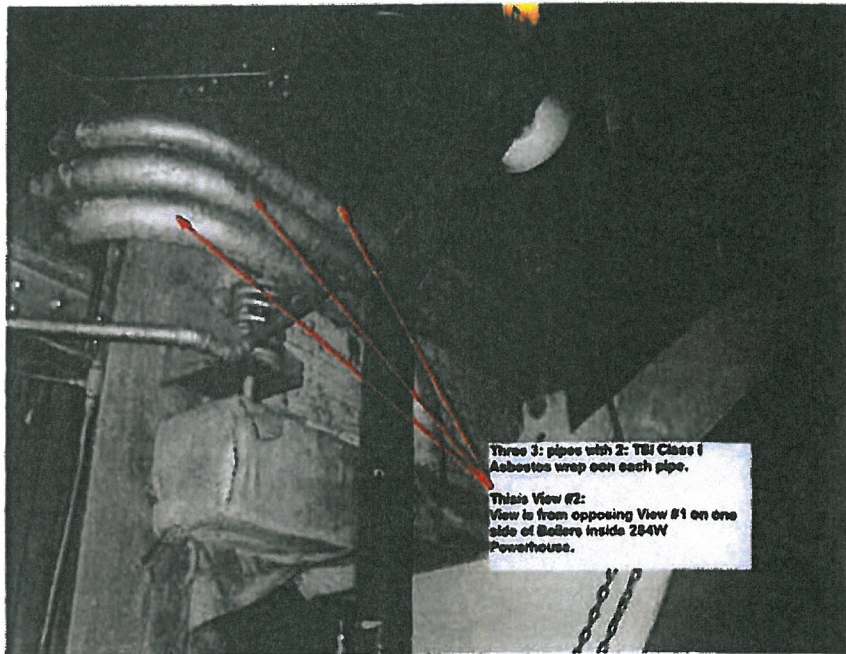
Photograph 3

ASBESTOS NOTIFICATION

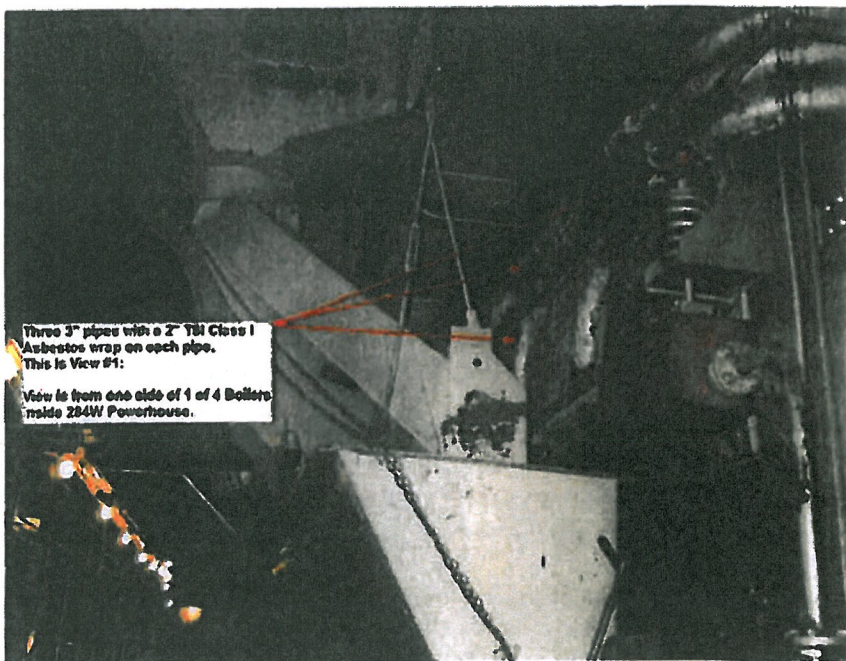
This second asbestos AOC, and the first area of Class I TSI concern, is a total of 300 linear ft of piping for all four boilers. The piping design is identical for each boiler.

Photographs 3, 4, and 5 show the configuration of piping with the Class I TSI for each boiler. All portions of this piping are 3-in.-diameter, with a 2-in.-deep wrap of Class I TSI.

Based on the estimate of a total of 300 linear ft, the total cubic footage of inaccessible Class I TSI for this AOC is approximately 65 ft³.



Photograph 4



Photograph 5

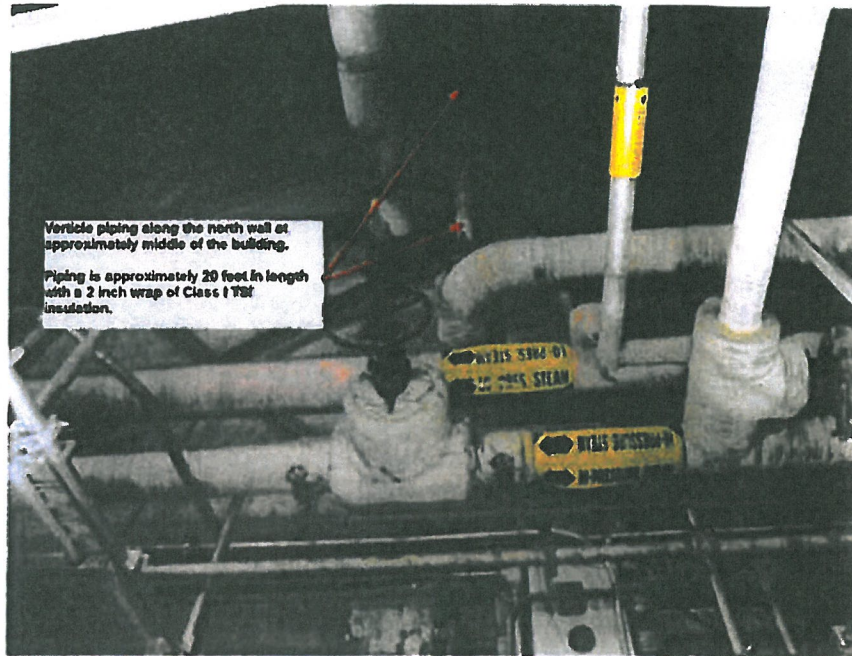
ASBESTOS NOTIFICATION

The third asbestos AOC, and the second area of Class I TSI concern (Photograph 6), is a 20-linear- ft length of 4-in.-diameter vertical pipe.

The 4-in.-diameter pipe has a 2-in.-deep wrap of Class I TSI.

The estimated cubic footage of Class I TSI for this AOC is approximately 5 ft³.

This is a single location that is not duplicated elsewhere in the building.



Photograph 6

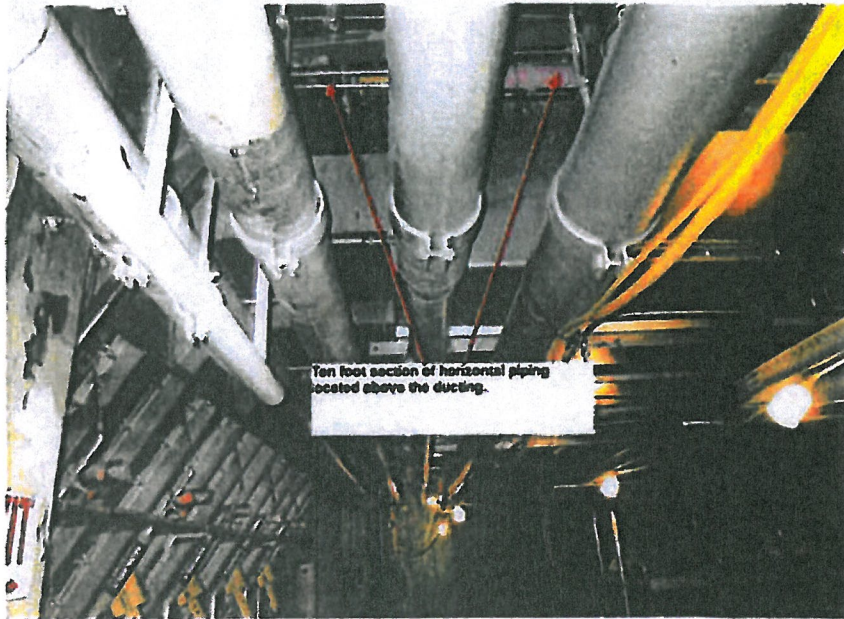
ASBESTOS NOTIFICATION

The fourth asbestos AOC, and the third area of Class I TSI concern (Photograph 7), is a 10- linear-ft length of 2-in.-diameter horizontal pipe.

The 2-in.-diameter pipe has a 2-in.-deep wrap of Class I TSI.

The estimated cubic footage of Class I TSI for this AOC is approximately 2 ft³.

This is a single location and not duplicated throughout the building. The piping is located above the ducting and is considered inaccessible.

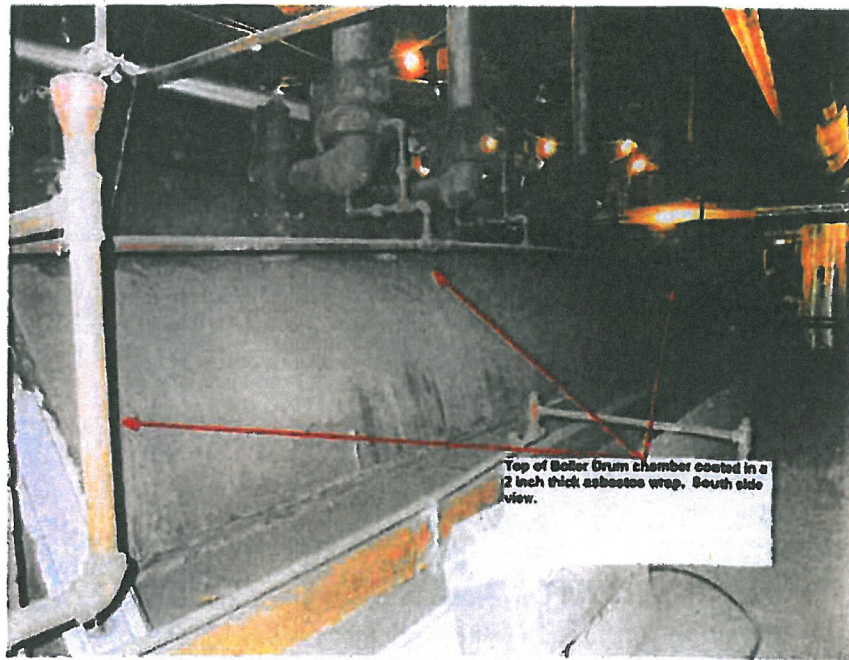


Photograph 7

The fifth asbestos AOC, and the fourth area of Class I TSI concern (Photograph 8) is a section (one-quarter section) of the boiler drum that is approximately 20-ft-long with a 2-in.-deep layer of Class I TSI. The area is approximately 6-ft-wide.

The surface of the insulation is located on the south (front) side of each boiler drum. The estimated cubic footage of Class I TSI for the front side is calculated with the cubic footage of the north (back) side of the boiler drum.

This single location is identical for all four boilers.



Photograph 8

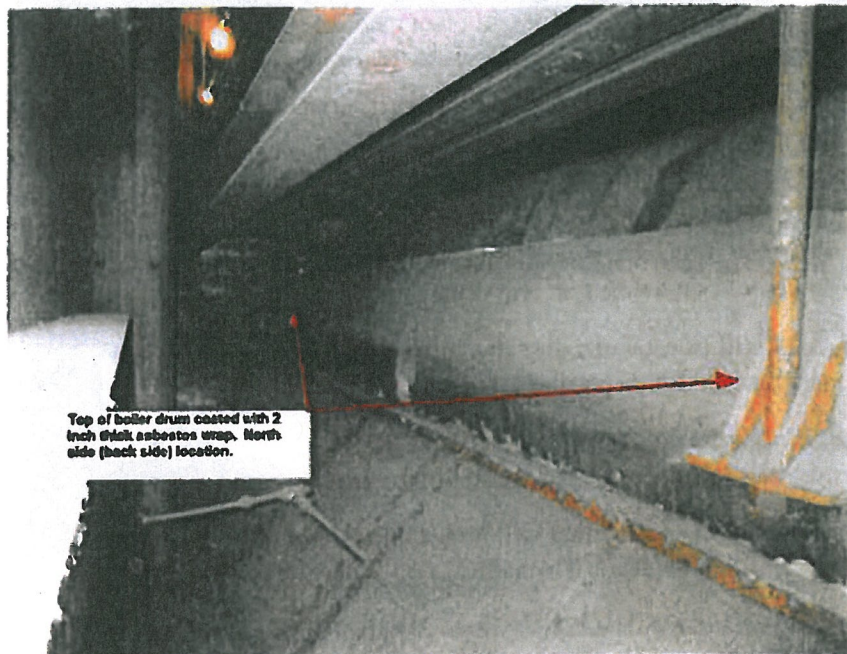
ASBESTOS NOTIFICATION

The sixth asbestos AOC, and the fifth area of Class I TSI concern (Photograph 9) is a small section of the drum that is approximately 20-ft-long with a 2-in.-deep layer of Class I TSI. The area is approximately 2-ft-wide.

The surface of the insulation is located on the north (back) side of each boiler drum.

This single location is identical for all four boilers. The volumes for both the north and south sides of each boiler drum (i.e., the fifth and sixth asbestos AOCs and the fourth and fifth areas of Class I TSI concern) have been summed together to yield the approximate cubic footage for these areas.

The approximate cubic footage of each boiler drum is 27 ft³. The total cubic footage for all four boilers is approximately 108 ft³.



Photograph 9

The areas of inaccessible Class I ACM and Class I TSI were inspected by a qualified asbestos inspector. The inspector determined that all the areas identified in this notification are Class I ACM or Class I TSI. Measurements are approximated due to hazards associated with accessibility. Engineering and building drawings were consulted to make the closest possible estimates of Class I ACM or Class I TSI to be left in place during demolition.

The areas identified in this report are believed to be inaccessible and removal would pose a potential risk to workers; the plan is to apply as much fixative as necessary to all the exposed areas of the inaccessible asbestos to reduce asbestos fibers from becoming airborne during demolition of the 284W Power House structure.

Should the opportunity arise for the removal of the inaccessible Class I ACM during the demolition phase of the structure, the project will stop demolition and remove as much of the Class I ACM as possible using the standard methods applied during prior Class I ACM removal. Removal during the demolition phase will be determined by worker safety for accessibility and project management.

Controls to be implemented for demolition of structures/buildings that contain Class I TSI and/or Class II regulated ACM (RACM) that will remain in place during demolition will be the controls listed in DOE/RL-2010-33, *Removal Action Work Plan for Central Plateau General Decommissioning Activities*, Section 2.2.2.1, Pages 2-2 and 2-3 (which are provided below).

1. An accredited asbestos building inspector will perform a comprehensive inspection of the building/structure to be demolished.
2. An estimate of the potential ACM that may reside in the building or structure [is provided].
3. A competent person trained in asbestos regulations will provide oversight during active asbestos demolition activities.
4. Track hoes, end loaders, and equivalent equipment and control explosives may be used during demolition in conjunction with wetting processes to minimize generation of dust.
5. Building/structures to be demolished with RACM remaining will be thoroughly and adequately wetted with amended water (water to which a surfactant has been added) prior to demolition, during demolition and during debris handling and loading. To the extent feasible, cavity areas and interstitial wall spaces will be wetted. A fixative or sealant such as "lockdown" may be used to reduce the potential for fiber and dust generation during the demolition process. Additionally, fixative or sealant will be used on demolition debris that will remain undisturbed for greater than 24 hours.
6. Breakage of ACM will be minimized, to the extent practical, and ACM debris generated during that day will be containerized for disposal.
7. The "National Emission Standards for Hazardous Air Pollutants" (40 CFR 61) asbestos standard of "no visible emissions" from RACM or ACM will be employed.
8. In the event of inclement weather that will impede the ability to adequately wet the structure, demolition activities will be delayed or halted.
9. Worker protection requirements will be followed. Personal protective equipment will either be disposed of as RACM or decontaminated in accordance with Occupational Safety and Health Administration practices.
10. Potentially contaminated water will be controlled during demolition. Impervious surfaces will be thoroughly washed with water following completion of the asbestos-related activities.
11. Upon the removal of demolition debris, bare soil within the asbestos-related demolition area will be excavated to a minimum depth of 7.62 cm (3 in.) or until no debris is found. If berms or other run-off controls were used to contain water, they will be removed and imposed of as potentially asbestos-contaminated.

These controls are in addition to those standard demolition controls listed in Section 4.3.4 of DOE/RL-2010-33.

References

40 CFR 61, "National Emission Standards for Hazardous Air Pollutants," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title40-vol8/xml/CFR-2010-title40-vol8-part61.xml>.

DOE/RL-2010-33, 2010, *Removal Action Work Plan for Central Plateau General Decommissioning Activities*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: <http://www5.hanford.gov/arpir/?content=findpage&AKey=0084342>.

EE-09-02425-1, 2010, "Engineering Evaluation for the Demolition of Building 284W, Building 284WB, and Building 2710W" (letter report), Rev. 1, CH2M HILL Plateau Remediation Company, Richland, Washington, December 8.